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### Bloops, bleeps at UM may prove to be very valuable in 1970s

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IMMEDIATELY

BLOOPS, BLEEPS AT UM  
MAY PROVE TO BE VERY  
VALUABLE IN 1970s

sale/dt  
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MISSOULA--

Strange bloops, bleeps and high-frequency sounds coming from room 203 in the University of Montana Fine Arts Building may prove to be among the most valuable and interesting sounds heard on campus during the 1970s.

The sounds are being made by the University's new electronic synthesizer, a system of instruments for producing and controlling sounds of all kinds for composing music.

This machine, known technically as the EML 100, is made up of seven basic components, with which an almost infinite variety of sounds can be generated and modified, according to Dr. Joseph A. Mussulman, as associate professor of music at UM who has been doing some of the early experimentation with the electronic synthesizer on campus.

"Actually," said Dr. Mussulman, "the University's synthesizer was not designed for use by serious composers, but rather as a tool with which certain principles of electronic music can be demonstrated.

"It is far too crude a machine to be used for the complex processes required for compositions such as are now heard almost daily on radio, even in certain rock styles and on television as background music to dramas."

Dr. Mussulman said synthesizers such as the now well known Moog (rhymes with vogue) can cost more than \$10,000.

Purchased recently for \$1,000 by UM from a Hartford, Conn., firm, the machine is used to explore ways of teaching music in public schools. Funds for the EML 100 were obtained in part from the federal government under Title VI of the Higher Education Act of 1965.

Dr. Mussulman said the machine, which was first used to compose music in the 1950s, is probably one of the few such machines in the Northwest.

The EML 100 operates on much the same principle as an electronic organ or an expensive electric guitar.



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"According to definition," said Dr. Mussulman, "electronic organs or guitars also are simple synthesizers.

"The difference between electronic organs and guitars and the EML 100 is that the former produce certain, very limited numbers of different types of sound, whereas the EML 100 can produce an almost unlimited variety of sounds," he added.

Three more pieces will be added next year to the seven basic components of the University's electronic synthesizer.

Virtually any sound can be recorded on and played back by the machine. In a recent demonstration, Dr. Mussulman combined piano notes, talking, singing, and a number of bloops, bleeps and high-frequency noises on recording tape. The sounds were combined and modified on the EML 100 to produce the total effect desired.

Regular tape recorders and one or more microphones also are used with the synthesizer to obtain the desired combinations of sounds.

The University's EML 100 is being used by Dr. Mussulman in music literature classes, by Dr. Kurt Miller, an associate professor of music, in courses in public school music instruction, and by Donald A. Carey, an assistant professor of music, in choral arranging at UM.

Dr. Miller said the audible qualities produced by the University's electronic synthesizer "should make the student aware of all sound, through the interplay of the sounds rather than through specific melodies."

Carey said use of the electronic synthesizer will be an extension of music discipline which students already have acquired.

"I feel the machine offers students a chance to experiment from the strength of musical discipline rather than haphazard, random activity," said Carey. "While the machine has unlimited possibilities musically, I am going to require my students to discipline themselves in its use."

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